

CLAIMS

What is claimed is:

1. A method for providing captioning in an AV signal, the method
5 comprising:
converting an audio signal in the AV signal to caption data
automatically; and
associating the caption data with the AV signal at a time
substantially corresponding to a video signal associated with the converted audio
10 signal in the AV signal.
2. The method as set forth in claim 1 further comprising:
capturing the AV signal, the AV signal comprising the audio signal
and the video signal; and
15 providing the audio signal in the AV signal for the converting.
3. The method as set forth in claim 1 wherein the converting further
comprises:
determining a first amount of data in the caption data; and
20 providing the caption data for the associating when the first amount
is greater than a threshold amount or when a first period of time has expired.
4. The method as set forth in claim 1 wherein the associating further
comprises synchronizing the caption data with one or more cues in the AV signal.
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5. The method as set forth in claim 1 wherein the associating further
comprises embedding the caption data within the AV signal.
6. The method as set forth in claim 1 further comprising displaying at
30 least the video signal and the associated caption data.

7. The method as set forth in claim 1 further comprising storing on at least one recordable medium at least the video signal and the associated caption data.

5 8. The method as set forth in claim 1 wherein the converting further comprises translating at least one word in a first language of the audio signal into a second language, the at least one translated word included in the caption data.

9. A speech signal processing system, the system comprising:
10 a speech-to-text processing system that converts an audio signal in an AV signal to caption data; and
a signal combination processing system that associates the caption data with the AV signal at a time substantially corresponding to a video signal associated with the converted audio signal in the AV signal.

15 10. The system as set forth in claim 9 further comprising a source for providing the audio signal in the AV signal to the speech-to-text processing system.

20 11. The system as set forth in claim 9 wherein the speech-to-text processing system further comprises a counter that determines a first amount of data in the caption data and a timer that determines when a first period of time has expired, wherein the speech-to-text processing system providing the caption data for the associating when the first amount is greater than a threshold amount or
25 when timer indicates that the first period of time has expired.

12. The system as set forth in claim 9 wherein the signal combination processing system synchronizes the caption data with one or more cues in the AV signal.

30 13. The system as set forth in claim 9 wherein the signal combination processing system embeds the caption data within the AV signal.

14. The system as set forth in claim 9 further comprising a video monitor for displaying at least the video signal and the associated caption data.

5 15. The system as set forth in claim 9 further comprising a translator that translates at least one word in a first language of the audio signal into a second language, the at least one translated word included in the caption data, the translating device coupled to the speech recognition processor.

10 16. The system as set forth in claim 9 wherein the signal separation processing system, the speech-to-text processing system and the signal combination processing system are integrated within a device, the device being portable and usable in a classroom environment..

15 17. A computer readable medium having stored thereon instructions for providing captioning which when executed by at least one processor, causes the processor to perform steps comprising:

converting an audio signal in an AV signal to caption data automatically; and

20 associating the caption data with the AV signal at a time substantially corresponding to a video signal associated with the converted audio signal in the AV signal.

18. The medium as set forth in claim 17 further comprising:
capturing the AV signal, the AV signal comprising the audio signal
25 and the video signal; and
providing the audio signal in the AV signal for the converting.

19. The medium as set forth in claim 17 wherein the converting further comprises:
30 determining a first amount of data in the caption data; and
providing the caption data for the associating when the first amount is greater than a threshold amount or when a first period of time has expired.

20. The medium as set forth in claim 17 wherein the associating further comprises synchronizing the caption data with one or more cues in the AV signal.

21. The medium as set forth in claim 17 wherein the associating further
5 comprises embedding the caption data within the AV signal.

22. The medium as set forth in claim 17 further comprising displaying at least the video signal and the associated caption data.

10 23. The medium as set forth in claim 17 further comprising storing on at least one recordable medium at least the video signal and the associated caption data.

24. The medium as set forth in claim 17 wherein the converting further
15 comprises translating at least one word in a first language of the audio signal into a second language, the at least one translated word included in the caption data.